



**Replacement Sheet**  
Serial No.: 10/531,050  
Filing Date: April 12, 2005  
Confirmation No.: 5055  
Art Unit: 2817  
Atty. Docket No.: 38028  
Sheet No.: 1 of 1

## **ABSTRACT**

The invention concerns a wideband modulator using a PLL synthesizer, which can match the frequency characteristic and prevent degradation in modulation accuracy even in the presence of a variation in the manufacture of circuit components. In a wideband modulator which modulates the division ratio of a frequency divider by using a modulating signal generated by a modulating signal generator and outputs a modulated carrier signal from a VCO, calibration data from a calibration data generator are input via a selector. The amplitude value of an ac component of each modulating signal, either appearing on the output of a loop filter or demodulated by a demodulator, is converted to a digital value by way of an A/D converter. The difference between the two is detected and a control signal FCR to eliminate the difference is generated in order to correct the frequency characteristic of a PLL or a pre-distortion filter.